

TENNESSEE VALLEY AUTHORITY

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CHATTANOOGA, TENNESSEE 37401  
400 Chestnut Street Tower II

84 AUG 30 P 1: 22 August 28, 1984

WBRD-50-390/84-43

U.S. Nuclear Regulatory Commission  
Region II  
Attn: Mr. James P. O'Reilly, Regional Administrator  
101 Marietta Street, NW, Suite 2900  
Atlanta, Georgia 30323

Dear Mr. O'Reilly:

WATTS BAR NUCLEAR PLANT UNIT 1 - AIR RETURN FAN SEISMIC SUPPORT DEFICIENCIES  
WBRD-50-390/84-43 - FINAL REPORT

The subject deficiency was initially reported to NRC-OIE Inspector  
P. E. Fredrickson on July 30, 1984 in accordance with 10 CFR 50.55(e) as  
NCR 5752. Enclosed is our final report.

If you have any questions, please get in touch with R. H. Shell at  
FTS 858-2688.

Very truly yours,

TENNESSEE VALLEY AUTHORITY

*James A. Damer*

for L. M. Mills, Manager  
Nuclear Licensing

Enclosure

cc: Mr. Richard C. DeYoung, Director (Enclosure)  
Office of Inspection and Enforcement  
U.S. Nuclear Regulatory Commission  
Washington, D.C. 20555

Records Center (Enclosure)  
Institute of Nuclear Power Operations  
1100 Circle 75 Parkway, Suite 1500  
Atlanta, Georgia 30339

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ENCLOSURE

WATTS BAR NUCLEAR PLANT UNIT 1  
AIR RETURN FAN SEISMIC SUPPORT DEFICIENCIES  
NCR 5752  
WBRD-50-390/84-43  
10 CFR 50.55(e)  
FINAL REPORT

Description of Deficiency

TVA identified a deficiency in which the air return fan seismic supports shown on TVA drawings 48W953-1 and 48W953-2 do not meet drawing and procedural requirements. It was identified that some bolt anchor shells had been cut off during installation, some welds do not meet configuration requirements, and the configuration of some structural members does not meet drawing requirements. These seismic supports were installed in mid-1979.

The cause of this deficiency is that individuals responsible for the inspection of the subject features, at the time of installation, did not fully recognize the requirement that all features be constructed exactly as shown on design drawings. Also, the procedure for testing anchor bolts did not address a 100-percent inspection of expansion shell anchors.

Safety Implications

The air return fan system (ARFS) is an engineered safety feature (ESF) per Watts Bar Nuclear Plant (WBN) FSAR section 6.8.2, and is designed to seismic category I requirements. The identified deficiencies could result in a failure of the air return fan seismic supports and subsequent failure of the ARFS during a design basis seismic event. The loss of function of the ARFS and the possibility of damage to other safety-related components due to the failed seismic supports could adversely affect the safe operation of the plant.

Corrective Action

TVA will reinspect and replace as required all anchor bolts on the air return fan seismic supports. All of the anchor bolts will then be tested and the results will be documented per the requirements of WBN Quality Control Procedure (QCP) 1.14, "Inspection and Testing of Bolt Anchors Set in Hardened Concrete and Control of Attachments to Embedded Plates." Additionally, TVA has evaluated the configuration of all affected weld joints and structural members. All deviations to design configurations were submitted to TVA's Division of Engineering Design (EN DES) to determine the method of repair or the acceptability of using the as-built configuration as-is. Where necessary, welds and/or structural members will be reworked. All corrective action is being done per field change request (FCR) NO. F10028, revision 1.

Since 1979, inspection and engineering responsibilities at WBN have been split and reorganized and quality control inspectors have been retrained to accept only features that strictly conform to design drawings. WBN-QCP-1.14 was revised in January 1982 to specify more rigorous acceptance criteria for the inspection and testing of bolt anchors. These corrective actions should prevent recurrence of this deficiency.

All corrective action for this deficiency will be completed by September 14, 1984.